INFORMATION SHARING BETWEEN THE U.S. DEPARTMENT OF STATE AND
THE U.S. ARMY: USING KNOWLEDGE MANAGEMENT
TECHNOLOGY AND TOOLS TO BRIDGE THE GAP

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by

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This work examines the information sharing between the U.S. Department of State and the U.S. Army when planning overseas operations. It looks at examples of collaboration and identifies where knowledge management tools and systems were used and where they could be used in the future. The focus of the study is on identifing barriers to use and incremental first steps that could be taken given the background of the problem of interagency knowledge sharing.

The focus of the conclusions and recommendations is on technical and easily implemented steps that could be taken by both the U.S. Army and the Department of State to change existing methods of knoweldge sharing by using new technolgy or adapting current practices and processes at different levels

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ABSTRACT

INFORMATION SHARING BETWEEN THE U.S. DEPARTMENT OF STATE AND THE U.S. ARMY: USING KNOWLEDGE MANAGEMENT TECHNOLOGY AND TOOLS TO BRIDGE THE GAP, by Major Andrew V. Walsh, 88 pages.

This work examines the information sharing between the U.S. Department of State and the U.S. Army when planning overseas operations. It looks at examples of collaboration and identifies where knowledge management tools and systems were used and where they could be used in the future. The focus of the study is on identifying barriers to use and incremental first steps that could be taken given the background of the problem of interagency knowledge sharing.

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ACKNOWLEDGMENTS

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ACRONYMS

AAR	After Action Review
AF	Bureau of African Affairs
AFRICOM	Africa Command
AMB	Ambassador
AOR	Area of Responsibility
APAN	All Partners Access Network
CAC	Common Access Card
CENTCOM	U.S. Central Command
CIA	Confidentiality, Integrity, Accessibility
CLO	Community Liaison Office
COCOM	Combatant Commander
COIN	Counterinsurgency
COP	Communities of Practice
DA	Department of the Army
DAO	Defense Attachés Office
DoD	Department of Defense
DoS	Department of State
DRI	Diplomatic Readiness Initiative
EAP	Bureau of East Asian and Pacific Affairs
ECT	Embassy Country Team
EUCOM	U.S. European Command
EUR	Bureau of European Affairs
FM	Field Manual

FOUO	For Official Use Only
GCC	Geographic Combatant Commander
GDP	Graduate Degree Programs
GSO	General Services Office
HA	Humanitarian Aid
HRO	Human Resources Office
ICS	Integrated Country Strategy
IMO	Information Management Office
IO	Information Operations
IRM	Bureau of Information Resource Management
KM	Knowledge Management
MOE	Measure of Effectiveness
MOP	Measure of Performance
NCD	Netcentric Diplomacy
NEA/SCA	Bureau of Near Eastern Affairs and South Central Asian Affairs
NGA	National Geospatial-Intelligence Agency
NGO	Non-Governmental Organization
NORTHCOM	U.S. Northern Command
NSC	National Security Council
OCAI	Organizational Culture Assessment Instrument
ODC	Office of Defense Cooperation
OMB	Office of Management and Budget
OPLAN	Operations Plan
PKI	Public Key Infrastructure
RSS	Real Simple Syndication

SBU	Sensitive but Unclassified
SIPDIS	Secure Internet Protocol Router Distribution
SIPR	Secure Internet Protocol Router
SOP	Standard Operating Procedure
SOUTHCOM	U.S. Southern Command
SQL	Structured Query Language
TRADOC	United States Army Training and Doctrine Command
U.S.	United States
USAID	United States Agency for International Development
WHA	Bureau of Western Hemisphere Affairs

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CHAPTER 1

INTRODUCTION

Overview

Knowledge Management provides relevant information as the commander transitions through understanding and visualizing the end state and operational approach, through the decision making process, and ultimately to action. It provides critical insight for assessment, enhancing rapid adaptation during dynamic operations. While not all knowledge provides an operational advantage, an operational advantage can only be achieved through the effective and timely transfer of knowledge to commanders and other decision makers.[1]

— Department of the Army,
FM 6-01.1, *Knowledge Management Operations*

Many different organizations struggle with knowledge management using modern technology. Commercial organizations that are able to harness this complex process demonstrate a significant advantage in markets by responding better to changes, having a greater ability to innovate, and improving coordination efforts.[2] While the U.S. government is not looking to profit from knowledge management, the goals of better performing government are as important to the public sector as profits are to the private sector. The value of successfully using knowledge management to respond better to change, innovation, and coordination efforts transcends both the private and public sector. The U.S. Department of State (DoS) and the Department of the Army (DA) both rotate positions frequently, deploy to a variety of countries, and work to promote and

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[1] Headquarters, Department of the Army, Field Manual (FM) 6-01.1, *Knowledge Management Operations* (Washington, DC: U.S. Army, 2012), 1-2.

[2] Andrew H. Gold, Arvend Malhotra, and Albert H. Segars, "Knowledge Management: An Organizational Capabilities Perspective," *Journal of Management Information Systems* 18, no. 1 (2001): 185-214.

defend the interests of the American people overseas. Despite these shared values, the two agencies do not seem to collaborate effectively to transfer information useful for making better decisions. This study focuses on how Army planners engage with State when planning and deploying to foreign countries.

Several well-known disasters could have been avoided with better knowledge management, including the sinking of the Titanic which received several reports of icebergs in the area but failed to share that information with the whole crew so they could use that information to make better decisions. There are also more notable recent disasters involving the public sector including the Challenger crash which was the result of faulty O-rings that had also been reported but that information was not used to change processes and procedures. Most recently, former Vice Chair of the National Commission on Terrorist Attacks Upon the United States Lee H. Hamilton, reported to congress that "poor information sharing was the single greatest failure of our government in the lead-up to the 9/11 attacks."[3] He highlighted the failure to share information between federal agencies, state and local authorities, and reported that it was a significant contributing factor to our failure to identify the threat of al Qaeda prior to 9/11.[4] While claims that the events of 9/11 could have been avoided if government agencies collaborated and shared information better are not easy to substantiate, experts from the 9/11 commission warn

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[3] Subcommittee on Intelligence, Information Sharing, and Terrorism Risk Assessment Committee on Homeland Security, *Prepared Statement of Lee H. Hamilton Former Vice Chair National Commission on Terrorist Attacks upon the United States* (Washington, DC: U.S. Government Printing Office, 2005).

[4] Ibid.

that we will have no excuse for future failures in information sharing that lead to disasters if we do not improve on knowledge management within the government.[5]

The DoS operates in over 260 missions worldwide to foster better partnerships with allies, build stronger ties with potential allies, and monitor situations on the ground in countries where relationships are strained.[6] This unique perspective from inside the country is critical to the way State operates and to the methods used to gather information, build contacts, and report back to Washington. In today's world of instant news reporting and social media, it is easy to gather data from around the world, but State's missions overseas add critical value. Through analysis and local relationships that afford greater understanding, State builds knowledge and perspective lacking from other sources. Within the last fifteen years, the wealth of knowledge gathered and stored by State has shifted from paper telegrams on stove-piped systems to robust electronic databases and online wikis.[7] This shift presents a new opportunity for Army planners to access and utilize this information when deploying overseas. The technology tools and methods of reporting at State have improved dramatically, but the way the U.S. Government uses them to make better decisions using interagency cooperation and a "whole of government" approach has not improved at the same rate. As with many organizations, the technology is only part of the solution when utilizing knowledge

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[5] Ibid.

[6] Department of State, "A U.S. Embassy at Work," September 14, 2009, accessed March 9, 2014, http://www.state.gov/r/pa/ei/rls/dos/129183.htm.

[7] Frank Konkel, "Diplopedia: Low Cost, High Engagement," FCW, December 19, 2012, accessed March 9, 2014, http://fcw.com/articles/2012/12/19/diplopedia-low-cost.aspx.

management systems. Culture, coordination, collaboration, education, and relationships matter as much as the technology.[8]

The U.S. Army has also changed dramatically in the past fifteen years with both technology and assigned missions. As the role of the Army continues to shift from a conventional force focused on battle with a near-peer competitor to more counterinsurgency operations with non-state actors, deployments overseas to unfamiliar regions and countries are more likely. Using shared knowledge, planners from both State and the Army, can make better decisions, compensate for frequent staff rotations, and adjust to continually changing political, economic, information, and military landscape. While improvements in strategic communications and collaboration at the national level have made progress over the last fifteen years, there is still a gap in knowledge management at the tactical and operational planning levels that would provide value and possibly allow for a continual relationship between the organizations. Given the limited scope of unclassified sources and data in this paper, the overall topic of national security agency information sharing is not possible. Instead, looking at knowledge management and interagency cooperation, this paper will look specifically at opportunities for unclassified sharing of data between DoS and the Army to facilitate working more closely together overseas at the embassy level to make better decisions. By limiting the scope of the U.S. government's knowledge management challenges to just this limited area, it is possible to thoroughly look at the challenges historically and attempt to find

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[8] George Taylor, "Implementing and Maintaining a Knowledge Sharing Culture Via Knowledge Management Teams: A Shared Leadership Approach," *Journal of Organizational Culture, Communications and Conflict* 17 (November 2013): 69-91.

incremental steps using new technologies that might facilitate improving the relationships and information flow.

While counter-insurgency (COIN) operations are specifically hampered by lack of coordination between State and the Army, the same issues occur with humanitarian aid (HA) missions which also require timely information sharing. Mission sets that require fast responses illustrate the immediate need for better coordination, but this issue is evident in most missions. Using the theory that we should train our soldiers in the same way we expect them to fight wars, the need to coordinate between State and the Army in training as well as day-to-day operations is needed so we can execute missions together when overseas more seamlessly. Collaboration between agencies within the U.S. government and a lack of unity of effort between them is the topic of over 100 studies, books and papers authored in the last 30 years.[9] While most of these studies look at organizational changes that modify relationships between State and DoD including hierarchy and reporting requirements, none of them specifically address the role of technology at lower levels. The primary purpose of this thesis is to identify where and when knowledge is shared and how to promote these interactions and events.

<u>Primary Research Question</u>

How do U.S. Army planners use knowledge management tools and information provided by the Department of State to make better decisions when deploying and operating overseas? By better understanding how the DoS and Army currently use KM

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[9] Robert Pope, *US Interagency Regional Foreign Policy Implementation: A Survey of Current Practice and an Analysis of Options for Improvement* (Montgomery, AL: Air Force University Press, 2010).

tools, we can build understanding and make recommendations on how to improve the relationship and sharing to make better decisions in both organizations.

<u>Secondary Research Questions</u>

Do U.S. Army planners know how to access tools and resources?

If so, why?

If not, why not?

What barriers such as cultural factors or biases contribute to sharing knowledge between agencies? Barriers to adoption are commonly cited as issues that threaten the use of KM systems. By understanding these barriers, we can develop ways to overcome them.

How often do Army planners deploy or plan to deploy to foreign countries where the embassy could assist in planning each year? Understanding where opportunities to collaborate and share knowledge is important to identify areas where KM can add value.

What emerging knowledge management technologies and tools could be used by Army planners directly dealing with the Department of State during operations overseas? New tools are emerging daily in today's fast moving technology sector. Understanding what we are doing now and what we could do in the future could be shaped by new technologies.

Who has access to electronic resources and networks of the Department of State working within the Department of Defense or the U.S. Army? Access to information is critical to any sharing of knowledge within these groups. In cases where systems are isolated, ways to bridge connections are needed to allow sharing.

What missions have Army planners performed when deploying to foreign countries and how could the information from the Department of State assisted them?

What historical information illustrates how sharing electronic knowledge from State has helped the U.S. Army better prepare and plan for overseas deployments? By understanding the historical context of knowledge sharing, we can help understand possible courses of action moving forward.

Assumptions

The following assumptions are believed to remain true, and add relevance to the research project. U.S. government decisions made about deployments and operating overseas without information from both the U.S. Army and Department of State lack insight that each organization could provide to enhance decision making. U.S. Army and Department of State employees specialize in different governmental roles that have different end states even though many of their objectives are shared by common goals. Senior leaders in both organizations realize the need for better information sharing across interagency groups, but have not focused on prioritizing that effort at levels below the Combatant Command (COCOM) and overseas embassies.

Definitions

Interagency: "Of or pertaining to United States Government agencies and departments, including the Department of Defense"[10]

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[10] Joint Chiefs of Staff, Joint Publication (JP) 1-02, *Dictionary of Military and Associated Terms* (Washington, DC: Joint Chiefs of Staff, 2013), 142.

Interagency Coordination: "The coordination that occurs between elements of Department of Defense, and engaged U.S. Government agencies and departments for the purpose of achieving an objective."[11]

Knowledge Management: "The process of enabling knowledge flow to enhance shared understanding, learning, and decision making. Knowledge flow refers to the ease of movement of knowledge within and among organizations."[12]

Limitations

Time constraints and technology will limit the scope of research to the last fifteen years and a small subset of interactions between the U.S. Army and State during this period. While it is possible to look at knowledge sharing and collaboration between the two agencies over a much larger history, the utility of this research is focused on how to use new systems, relationships, and technologies to expand and reinforce the collaboration that is happening or could happen with new knowledge management techniques.

Delimitations

The research will be restricted to the deployments of Army units to foreign countries that happened within the last fifteen years. It will focus on knowledge management efforts below the COCOM and at the embassy level overseas. It is also restricted to unclassified and public data sources so that the research can have the largest dissemination.

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[11] Ibid.

[12] Headquarters, Department of the Army, FM 6-01.1, 1-2.

Conclusion

This study explores the ways the Army is currently using electronic information and knowledge from the U.S. Department of State and looks for new opportunities to expand this usage. While technology is part of the solution, this study will focus primarily on the value of the resources available to Army planners when deploying. By building awareness of resources and highlighting cases where knowledge management tools were and were not used, we can begin to understand their value and promote ways to exploit these advantages.

Barriers to adoption of knowledge management systems across organizations include organizational problems such as hierarchy issues, cultural issues, and biases. This study will address those issues, as well as examine the various factors that might inhibit or promote collaboration using technology tools between the agencies. By first evaluating the organizational problems and historical data, we can frame the possible uses between the agencies and then determine what barriers exist. The literature review will focus on the following areas: identifying interagency cooperation challenges, clarification of the terms associated with knowledge management and common challenges, impacts of organizational culture, case studies on knowledge management, brief analysis of Army overseas deployment planning, technologies associated with knowledge management, in depth examination of the systems used by State and the Army to transfer knowledge, and historical analysis of usage of shared knowledge management tools between government agencies. Chapter 3 will explain the methodology used in the research. Chapter 4 will discuss the findings of the qualitative study and outline how the Army uses knowledge management tools from State. The final chapter will contain the conclusion and

recommendations for future research in the field of knowledge management, and identify

possible ways to improve collaboration between government agencies.

CHAPTER 2

LITERATURE REVIEW

This literature review looks at available resources focused on problems with

collaboration between the Department of State and the U.S. Army. Studies included

research on existing relationships and recommendations for changes, historical

information from Haiti and other overseas deployments by Army forces, and possible

opportunities to take advantage of better electronic collaboration of knowledge prior to

operations. The literature review is organized in three parts: first, focusing on challenges

to interagency cooperation, followed by knowledge management and technology tools,

then concluding with practical historical examples of Army and State's successes and

areas for improvement when working together overseas. This balanced approach to the

literature review allows equal consideration of available research by evaluating the KM

factors including people, processes, and technology.

Interagency Cooperation

The article "Defense is from Mars, State is from Venus" written in 1998

highlights several challenges that both agencies have when dealing with each other based

on culture.[13] In that analysis, the focus is on cultural issues between State and DoD in

cases where they work together. Interagency collaboration is not easy based on very

different methods of decision making which are dependent on character traits,

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[13] Rickey L. Rife and Rosemary Hansen, *Defense is from Mars, State is from Venus; Improving Communications and Promoting National Security* (Carlisle, PA: U.S. Army War College, 1998).

institutional values, and different personalities of personnel serving in both departments.[14]

Schein defines culture as the "pattern of basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to these problems."[15]

Given Schein's definition, it is easy to see why the staff at State are characterized in the article as being free thinkers without a formal agenda, often arriving late to meetings, and figuring things out as they go conflicts with their DoD counterparts. DoD is characterized as rigid and formal, arriving on time, and demanding a firm plan to accomplish the goals. While these stereotypes are not always true, they are founded in some perceptions that hold true in many interactions. People within State can develop a firm plan, and members of DoD can adapt and be flexible when executing the plan, but the tendencies of both groups displaying the behaviors characterized in the article can easily be found when State and parts of DoD interact. The cultures of each organization are very different. Recognizing character traits, institutional values, and personality preferences is recommended as a way to build a long-term relationship between the organizations.[16]

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[14] Ibid.

[15] Edward H. Schein, *Organizational Culture and Leadership*, 2nd ed. (San Francisco, CA: Jossey-Bass, 1992).

[16] Rife and Hansen, *Defense is from Mars, State is from Venus*.

In contrast to the work by Rife and Hansen identifying the differences between State and DoD, Davis and Paparone used the Organizational Culture Assessment Instrument (OCAI) to collect data at the working-group level and identify different mid-level values, attitudes and perceptions in both groups and found that the groups are actually very similar in many ways.[17] According to that research, both organizations rated their own culture and perceived the others as very similar in terms of hierarchical control and the value of flexibility. Overall patterns identified by the study were negligibly different, highlighting that the two organizations actually have quite a bit in common in terms of overall culture. One other interesting finding of this study is the fact that both groups do not reward risk-takers based on values of long-established bureaucracies. This was reflected by 45.5 percent of State respondents agreeing with the idea that the organization does not value "out of the box" thinking while only 25 percent of DoD participant's agreed.[18]

Recommendations from the Rife and Hansen article include State establishing clear chains of command and organizational charts when dealing with DoD. Capitalizing on training opportunities early to indoctrinate each of the groups to each other and expanding excursion tours within each Agency is also recommended. Making sure that State employees and military personnel see these excursion tours as beneficial to their careers is also critical, according to the article. Finally, training with both State and DoD

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[17] William J. Davis and Christopher R. Paparone, "Departments of State and Defense Relations: Are Perceptions Important?" *InterAgency Journal* 3, no. 1 (2012): 31-39.

[18] Ibid.

focused on case studies and ways to reward members of both groups for making contacts with each other and sharing ideas.[19]

While all these recommendations attempt to address the differences in the cultures of each group through more personal interactions that build relationships between people within both agencies, they do not take into account the frequent rotations by both Departments. State Department Foreign Service staff employees rotate every two to three years, and DoD personnel overseas rotate on each assignment lasting two to four years. This significantly hampers the ability to foster personal relationships that build trust and enhance cooperation. Building overall understanding of differences in culture can help to develop more tolerance from the different organizations, but this is not the same as cooperation and decision making based on collaboration.

In the past fifteen years, technology and policies in both organizations have changed dramatically, however there are still countless culture barriers that inhibit collaboration despite several studies of the issue.

Literature on interagency cooperation, based on culture, presents some of the challenges Army planners have when interfacing effectively with embassies. It is also important to review the literature that addresses the interagency issues at the strategic level to see how research at different levels applies. Reviewing current research on interagency issues at lower levels will complete this comprehensive review to fully appreciate the challenges.

At the highest strategic levels of the interagency process is the National Security Council (NSC) where State and DoD try to align the strategy of both organizations with

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[19] Rife and Hansen, *Defense is from Mars, State is from Venus*.

the national interests. The NSC was created in 1947 in an attempt to increase the coordination between agencies and, "advises the president with respect to the integration of domestic, foreign, and military policies relating to national security."[20] The NSC does allow discussions and collaborations at higher levels that were not possible before it was formed, but is also criticized for being hamstrung when addressing today's unique threats, competing bureaucratic agencies, and an inability to delegate to lower levels where much of the expertise to solve complex "wicked" problems exists.[21] In addition to the bureaucratic competition among agencies and shifting threats, the cyclical nature of the presidency also fuels the dysfunction of the NSC as changes in leadership every four or eight years destabilize the structures.[22] As noted, delegating down to the lower levels where expertise exists would allow better decision making and help to alleviate some of the instability inherent in the NSC system based on presidential terms.

In contrast to the literature on the issues with the NSC, Hicks recommends a stronger relationship at the Embassy Country Team (ECT) level with the Geographic Combatant Commanders (GCC) and the COCOM level in his research into AFRICOM's interactions with State. The importance of integrating AFRICOM's efforts with the Mission Strategic Resource Plan (MSRP) developed at the embassy level to accomplish

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[20] "National Security Act of 1947," U.S. Congress, Public Law 253, 80th Cong., July 26, 1947, 61 Stat. 495, as Amended to January 8, 1952, and Including the National Security Act Amendments of 1949, Public Law 216, 81st Cong., August 10, 1949, 63 Stat. 578, Ed., 80th Cong., Washington, 1952.

[21] Ryan R. McCallum, "Evolving a Hamstrung and Broken System," InterAgency Paper 11W (2013), 4.

[22] Ibid.

goals of the regional bureaus is stressed.[23] In this analysis, the author recommends that

AFRICOM focus on supporting ECT efforts using "soft-power" and capitalize on State's

"smart-power" which is another way of describing leveraging all the instruments of

power available.[24] The MSRP was replaced by the Integrated Country Strategy (ICS), but

the importance of aligning plans between agencies remains the same. One example of the

use of soft-power with smart-power is coordinating General level (GCC Commander)

visits to countries with a sensitivity for ECT goals and aligning these high-level visits

with other events to create synergy with State instead of draining limited embassy

resources at other times. Another example is synchronizing Information Operations (IO)

between agencies so messaging provided has unity of purpose and effort and aligns

resources.[25]

Another insight into issues with bureaucracy between State and DoD highlights

the fact that the two agencies cannot even agree on how to divide the globe into different

regions in the same way to allow unity of effort across the organizations.[26] Given this

inability to even agree on what countries belong to what regions, it is little surprise that

other coordination issues arise. In the same article, Sweberg and Childers point to

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[23] Irvin Hicks, "Promoting Interagency Unity of Effort between AFRICOM and U.S. Embassy Country Teams (ECTs) in Africa" (Paper, Naval War College, 2012).

[24] Richard L. Armitage and Joseph S. Jr Nye, *How America can Become a Smarter Power* (Washington, DC: Center for Strategic and International Studies, 2007), 5-14.

[25] Hicks.

[26] Mark Sweberg and Allan Childers, "Interagency Areas of Responsibility: It Shouldn't Take a Genius to make Geography Simple," *InterAgency Journal* 5, no. 2 (Summer 2014): 32.

shrinking budgets including a drop of twenty percent in senior military and civilian positions at the Pentagon by 2019 which will force DoD and State to do more with less and find efficiencies in their processes.[27] If State and DoD can align their areas of responsibilities (AOR) to each other, it would be much easier to coordinate issues between DoD's COCOMs and State's geographic bureaus.

While all the literature available acknowledges issues with interagency relationships between State and DoD, much of it is focused at levels too high to operationalize solutions. By focusing this research on levels below the COCOM and within ECTs, we can build on the body of knowledge available to provide real-world incremental steps at lower levels that could provide some remedies to some of the interagency challenges uncovered at higher levels.

<center>Knowledge Management as a Discipline</center>

The study of knowledge management crosses academic boundaries of organizational leadership, management, and computer sciences. KM has only been identified as a discipline for about 20 years when it was first introduced by Karl-Erik Sveiby and Karl Wiig in 1986 with the first KM books being published in 1987.[28] However, it was not until 1998 when technology and collaboration using new web systems allowed KM to gain so much momentum. Knowledge management is defined by Thomas Davenport as, "the process of capturing, distributing, and effectively using

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[27] Ibid.

[28] Karl Sveiby and Tom Lloyd, *Managing Knowhow* (London, UK: Bloomsbury, 1987).

knowledge."[29] While this definition is easy to remember and succinct, it lacks some critical elements captured in other definitions. Most notably missing is the need for integration, evaluation, retrieval methods, combining policies and procedures to govern the process of gathering previously uncaptured tacit knowledge within an organization and converting it to explicit knowledge.[30] Another definition from Army Field Manual FM 6-01.1 asserts that knowledge is "information that has been analyzed to provide meaning or value or evaluated as to implications for the operation."[31] The Army field manual also states that knowledge is formed through study, experience, practice, and interaction with others to build a foundation for expertise and better judgment.[32]

Tacit knowledge is defined as knowledge in people's heads, but not documented anywhere in the organization. Explicit knowledge is found in tangible documents that spell out exactly how something is done within an organization. One other category sometimes added is implicit knowledge, which is another type of knowledge that is not in tangible form, but could be documented more easily than pure tacit knowledge. This addition of a third type of knowledge underscores the difficulty in transferring all of an organizations knowledge from tacit to explicit. The "conscious strategy of putting both tacit and explicit knowledge into action by creating context, infrastructure, and learning cycles that enable people to find and use the collective knowledge of the enterprise" is

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[29] Thomas H. Davenport, "Saving IT's Soul: Human Centered Information Management," *Harvard Business Review* 72, no. 2 (March-April 1994): 119-131.

[30] Bryant Duhon, "It's All in our Heads," *Inform* 21, no. 8 (1998): 8-14.

[31] Headquarters, Department of the Army, FM 6-01.1, 1-2.

[32] Ibid.

also an academic definition of knowledge management from almost fifteen years ago

underscoring that the problem of converting tacit to explicit knowledge is not new.[33]

In addition to the types of knowledge, there are also three major components that

intersect where knowledge management tasks take place in an organization as depicted in

figure 1.[34] While Army manuals previously focused on these three components, newer

manuals have an updated listing of people, processes, and tools. This highlights a shift in

Army thinking about KM from the mainstream people, process, and technology model to

a model with an appreciation for organizational culture as well as an idea that tools can

be both digital and non-digital in the realm of KM.[35]

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[33] Cindy Hubert, *Knowledge Management: A Guide for Your Journey to Best-Practice Processes* (Houston, TX: APQC, 2000), 1.

[34] Headquarters, Department of the Army, FM 6-01.1, 1-7.

[35] Headquarters, Department of the Army, ATP 6-01.1 (FM 6-01.1), *Techniques for Effective Knowledge Management* (Washington, DC: Department of the Army, 2015), 1-4.
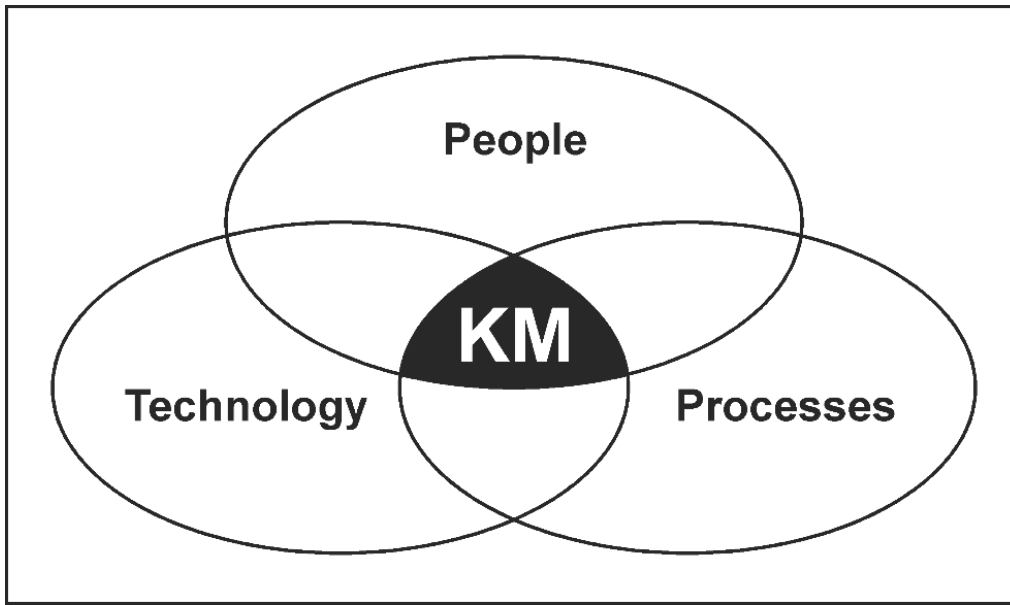
Figure 1. Major knowledge management components

Source: Headquarters, Department of the Army, Field Manual (FM) 6-01.1, *Knowledge Management Section* (Washington, DC: U.S. Army, 2008), 1-7.

While KM literature usually defines people as the most important component of the major components, the new literature from the Army lists people as just important to success, while older versions of doctrine asserted that, "people are the most vital for successful KM."[36]

This shift in Army doctrine from people and an overall view of technology to a view that focuses on non-digital tools such as whiteboards and even butcher paper equally as tools that facilitate KM allows the Army to acknowledge that KM is not just about technology and provides a more encompassing framework for KM within the warfighting function of mission command.[37]

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[36] Headquarters, Department of the Army, FM 6-01.1, 1-76.

[37] Headquarters, Department of the Army, ATP 6-01.1 (FM 6-01.1), 1-4.

Three primary structures within today's knowledge management systems include lessons learned databases, methods to search expertise within people in an organization, and communities of practice that encourage groups to share and collaborate across the organization.[38] Enterprise collaboration software usually includes aspects of these three structures to assist organizations with knowledge management. Both the U.S. Army and State have software and systems that include these systems and structures.

While knowledge management is possible to define clearly, it is very challenging to adopt within organizations. Several best practices are found in literature on the topic, but first it is useful to discuss why knowledge management is important to organizations. Important elements of knowledge management include collecting knowledge and organizing that knowledge, however connecting people to leverage the collaborative knowledge of the organization is equally as important.

Knowledge management is important to organizations since knowledge is the only asset organizations can use in a dynamic environment to adapt and change using collective knowledge to augment individual knowledge.[39] Put simply, making good decisions using all the information available is only possible if that decision is informed by the collective knowledge of the individuals and the groups within the organization. While the missions and goals of the U.S. Army and the Department of State are very different, the majority of both organizations rely on knowledge workers to make the

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[38] Michael E. D. Koenig, "What is KM? Knowledge Management Explained," KMWorld.com, accessed January 9, 2015, http://www.kmworld.com/Articles/ Editorial/What-Is-.../What-is-KM-Knowledge-Management-Explained-82405.aspx.

[39] J. S. Brown and P. Duguid, "Organizational learning and communities of practice: Toward a unified view of working, learning and innovation," *Organization Science* 2, no. 1(1991): 40-57. doi:10.1287/orsc.2.1.40.

decisions within them each day in much the same way. Figure 2 illustrates how leaders and subordinates use core competencies of KM to produce effective decision-making based on aligning people, processes and tools within the organization to facilitate KM.[40]
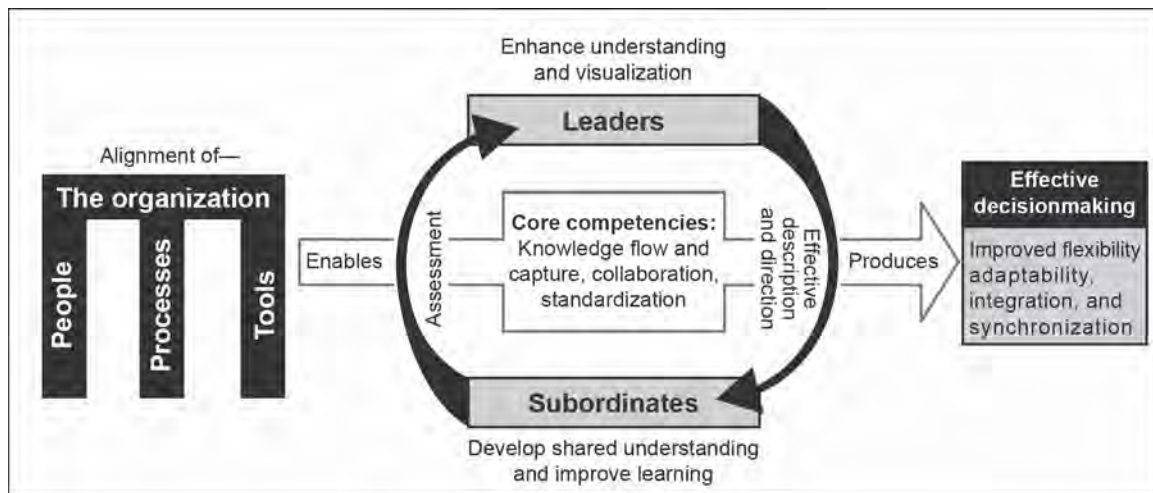
Figure 2.   How knowledge management facilitates decision-making

Source: Headquarters, Department of the Army, Field Manual (FM) 6-01.1, *Knowledge Management Operations* (Washington, DC: U.S. Army, July 2012), 1-9.

While there is ample research into how government agencies work together at strategic levels, there is a gap in scholarly research addressing knowledge management at operational and tactical levels where policy is executed. When looking at the cognitive hierarchy defined by the Army and based on common knowledge management models for distinguishing between data, information, knowledge and understanding, it becomes clear why KM focused at lower levels of organizations is important.

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[40] Headquarters, Department of the Army, FM 6-01.1, 1-2.

Equally lacking in research on KM is significant study into how government organizations can use KM externally when dealing with partners. One similar environment is discussed by Parise and Sasson in their work on strategic alliance building within the private sector where KM is used to manage complex relationships between companies that interact with multiple partners.[41] In that research, the importance of not only applying KM to the alliance is discussed, but they also explore in depth how KM is used to document the alliance itself and develop ways to strengthen the trust between groups as well as capture positive and negative lessons learned from the partnership.[42]
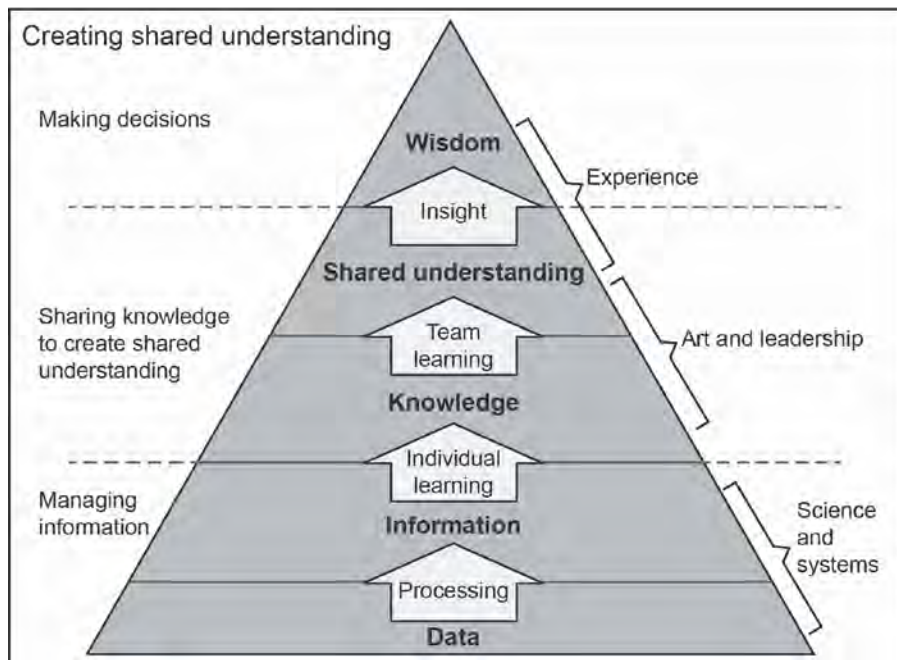

Figure 3.   Creating Shared Understanding

Source: Headquarters, Department of the Army, Field Manual (FM) 6-01.1, *Knowledge Management Operations* (Washington, DC: U.S. Army, July 2012), 1-11.

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[41] Salvatore Parise and Lisa Sasson, "Leveraging Knowledge Management Across Strategic Alliances," *Ivey Business Journal* (March/April 2002): 2.

[42] Ibid.

The progression of data to wisdom is depicted in figure 3. Data is generally

defined as unprocessed signals or sensors, while information takes that data and provides

meaning through context and interpretation.[43] Knowledge is coupling information with

experience using cognitive abilities to determine relationships. Teams can then take that

knowledge and share it with others which creates a context for better understanding and

ultimately results in wisdom to make better decisions as depicted in figure 3. This shared

understanding is the foundation of effective decision making according to the Army

doctrine.

While strategic decisions can use this model to assist in making decisions at DoS

and the Army, it is also applicable to the interagency process and especially at lower

levels where data is generated or gathered close to the source. Using the KM models and

literature of the academic world as well as the Army, it is very clear that KM at the

operational and tactical level is possible. The interagency process could benefit

significantly from using these models at the DoS embassy level and at the levels below

the COCOM within the U.S. Army.

Despite all the scholarly research into what KM is and how it is done, further

research shows that people are reluctant to share knowledge even within their own

organizations and may even hide the knowledge they have because of a lack of trust

within their organization.[44] While this negative side of KM is important to understanding

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[43] Headquarters, Department of the Army, FM 6-01.1, 1-2.

[44] Catherine E. Connelly et al., "Knowledge Hiding in Organizations," *Journal of Organizational Behavior* 33, no. 1 (January 2012): 64.

why KM strategies sometimes fail within an organization, the negative organizational behaviors that hamper KM also affect attempts to push sharing outside the organization.

<center>Knowledge Sharing Technologies used
at DoS and the Army</center>

In order to better understand the organizational issue and the role of knowledge management between these two agencies we must understand the technology tools both groups use. While the previous sections of the literature review focused on culture, and KM as a discipline, this section will hone in on the actual tools both State and the Army are currently using and the literature pertaining to those tools.

While both organizations use email as a primary method of communicating and have various technologies in place for discussion boards and portals, neither organization has mastered a KM approach that facilitates transfer of best practices efficiently in a way that replaces email as the preferred KM tool.

Both organizations use email, wikis, blogs, communities of practice (COP), document management systems (SharePoint), people pages (directories), video conferencing, and real simple syndication (RSS) feeds. Many of these systems are used to different degrees based on user knowledge of their capabilities and experience using particular tools. In some cases, multiple instances of these tools exists on different networks adding to the information overload in both the Army and State. Both organizations operate networks that are publically accessible, unclassified but for internal use only, and networks with different degrees of sensitive information. These separated enclaves of information create duplicated data and increase workload for knowledge workers. This information overload is common in federal organizations that have

<center>25</center>

multiple systems with users trying to manage information on multiple systems or enclaves.[45]

Holland and Dawson look at all KM tools in terms of purpose to try and determine which tools will be most effective in certain environments with certain goals.[46] In this research, wikis, blogs, communities of practice, document management systems, email, people pages, video conferencing, and RSS feeds are all compared in terms of problem requirements and barriers to adoption to determine which tools are most effective in the different situations.[47] In this research, the only KM tool of those studied that was not overcome by culture as an influence was email showing that it is not impacted by culture as greatly as blogs, wikis, or document management systems.[48] COPs were most impacted by culture, but were also the only tool besides email, video conferencing and people pages that showed the ability to overcome issues with incentives to users.[49] Identifying problem requirements and barriers in the collaboration between DoS and Army planners will allow a better understanding of what tools are most effective for the group to collaborate.

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[45] Pete Marksteiner, "Urgent: Mastering Information Overload in Government," *Public Manager* 40, no. 2 (Summer 2011): 14.

[46] Suzi Holland and Ray Dawson, "Classification and Selection of Tools for Quality Knowledge Management," *Software Quality Journal* 19, no. 2 (June, 2011): 393.

[47] Ibid.

[48] Ibid.

[49] Ibid.

Historical Examples of Collaboration

Examples from Panama, Haiti, Iraq and Afghanistan all illustrate how both agencies have struggled with using technology, tools, and relationships to collaborate on deployments of DoD and Army personnel overseas.

In Operation Just Cause, planners at Fort Bragg conducted compartmentalized training outside of stakeholders at the DoS and over-classified materials leading to planning in a vacuum.[50] The result was an operation where DoS had very little input into planning and could not contribute to the overall understanding of the situation which could have added significant value for Army planners.

In Haiti, AMB Swing and General Shelton coordinated at their level and were able to illustrate positive relations with DoS and the Army in 1994 for taming the political situation and including Caribbean nations in OPLAN 2370.[51] Even though the mission was changed at the last minute and diplomatic solutions significantly restricted military options, the relationship at upper levels led to teamwork at lower levels and better coordination even when the situation shifted.

Iraq had elements of top level collaboration when Ambassador Ryan Crocker and General David Petraeus built a personal relationship that created a level of trust not seen before or since in the interagency relationship within Iraq.[52] While the success of collaboration between Crocker and Petraeus is clearly documented, the absence of this

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[50] William Brown, "Why Leadership Matters: Joint Task Force Planning with the Department of State" (Monograph, School of Advanced Military Studies, 2013).

[51] Ibid.

[52] Ryan Hilger, "Fundamentally Restructuring Interagency Operations for Future Success," *InterAgency Journal* 5, no. 1 (2014): 33.

type of relationship between other Ambassadors and Generals serving in their positions is also relevant. This shows the importance of people in the interagency partnership, and KM, but also illustrates how rotations within State and the Army can have both positive and negative effects.

In Afghanistan, Ambassador Richard Holbrook commented that after nine years of war, we were still starting from scratch based on uncoordinated efforts.[53] In contrast to the positive reports from Iraq with Crocker and Petraeus, this comment shows that we cannot rely on personal relationships alone at the top levels to insure good interagency planning happens and units at lower levels are able to plan effectively together between State and the Army.

After the earthquake in Haiti on January 12, 2010, troops from the 18th Airborne Corps and interagency teams from USAID and State all descended on Port au Prince to offer assistance. Given the focus on a quick response to try to save lives, decision making within the Army and DoS was swift. The airport was secured rapidly and humanitarian aid was flowing into the country via military lift as people affected by the earthquake were evacuated. Without coordinated interagency response, the airfield would not have been operational for weeks limiting necessary medical supplies entering the country.

The most recent deployment of Army troops from the 101st to Monrovia, Liberia under USAID's direction using a whole-of-government approach is another example of military units deploying with interagency leadership.[54]

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[53] Ibid.

[54] David Vergun, "101st HQ deploying to Liberia in response to Ebola epidemic," Army News Service, accessed March 31, 2015, http://www.ftleavenworthlamp.com/ article/20141002/NEWS/141009797.

These historical examples highlight different events where State and the Army have worked together overseas. While many research papers and resources identify interagency challenges surrounding the events outlined, little research is available that shows how KM was used during these activities. The analysis section of this paper will attempt to draw information from the literature review on interagency cooperation combined with KM references and tools used by State and the Army to outline possible uses for KM in these deployments. It will also identify what resources are available now followed by recommendations for future development of tools and systems to improve interagency knowledge sharing.

Another interesting development in interagency knowledge sharing occurred in 2006 with Project Horizon, which developed different future scenarios and brought the interagency together to determine how to best handle the situations. Unlike the other historical examples, this was an exercise to test interagency collaboration and identify ways to improve. In this project, KM was again seen as a major shortfall in the interagency process. Recommendations from that study included government-wide sharing initiatives that enhanced sharing architecture, and standardized systems of classifying data accessed by government agencies.[55]

While historical examples and exercises help to frame the problem of knowledge management as well as identify barriers to adoption and some successes, they do not create a roadmap for a way forward in terms of practical steps necessary to get KM tools more widely used between State and the Army when planning overseas operations. By

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[55] Project Horizon, "Project Horizon Progress Report" (Open Source Intelligence Forum, 2006), accessed April 28, 2015, http://osif.us/images/Project_Horizon_ Progress_Report.pdf.

better understanding the history, we can develop theories about what might work and then shape doctrine to achieve our goals. However, we cannot replicate the past with today's ever-changing technology landscape and the constant shifts in national interests based on emerging threats and world events.

There are signs of encouragement in military uses of KM and overall attitudes toward more sharing. GEN Stanley McChrystal captured this in a technology, entertainment, and design (TED) conference talk where he said he was, "more scared of the bureaucrat that holds information in a desk drawer or in a safe than I am of someone who leaks, because ultimately, we'll be better off if we share."[56] The problem is not new, but attitudes are changing and recent history shows some successes around the failures.

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[56] Stanley McChrystal, "The Military Case for Sharing Knowledge," TED Talks transcript, accessed April 8, 2015, https://www.ted.com/talks/stanley_mcchrystal_ the_military_case_for_sharing_knowledge/transcript?language=en.

CHAPTER 3

RESEARCH METHODOLOGY

<u>Overview</u>

The purpose of this study was to determine if Army planners use Department of State electronic knowledge management tools effectively to assist with decision making prior to and during deployments to foreign countries. A review of unclassified documents and sources relating to organizational culture, knowledge management, and historical examples of Army deployments overseas was examined to determine the level of utilization of State resources by planners.

Qualitative analysis included books, scholarly journals, periodicals, government papers and briefings, graduate theses, and web resources relating to State and the U.S. Army. This review of sources was conducted to determine if Army planners use State resources, where they proved valuable, and where they were not used and could have shaped an outcome. In cases where tools were not used because they did not provide utility, possible methods to increase the value of tools developed by DoS were explored.

The relationship between DoD and Dos was analyzed to identify potential barriers to knowledge sharing as well as possible regions or missions where greater potential for collaboration exists. By searching literature for both successes and failures and future targets of opportunity, recommendations were developed to build on positive interactions, minimize negative factors, and identify high-value opportunities to target interactions and possibly tailor products for each other's complimentary needs.

Qualitative analysis offers an opportunity to analyze the issue of KM tools using previous studies, and other resources that illustrate the challenges in KM collaboration

between government agencies. While quantitative analysis would be interesting given

logs and access controls on government networks, it was not possible given the

complexity of different networks and access to system records as well as constraints on

time and scope of this study.

In cases where it was determined that State KM resources were used, the results

of this information were explored. In cases where it was not used, possible factors that

contributed to nonuse were explored and the possible consequences of not using

resources were evaluated.
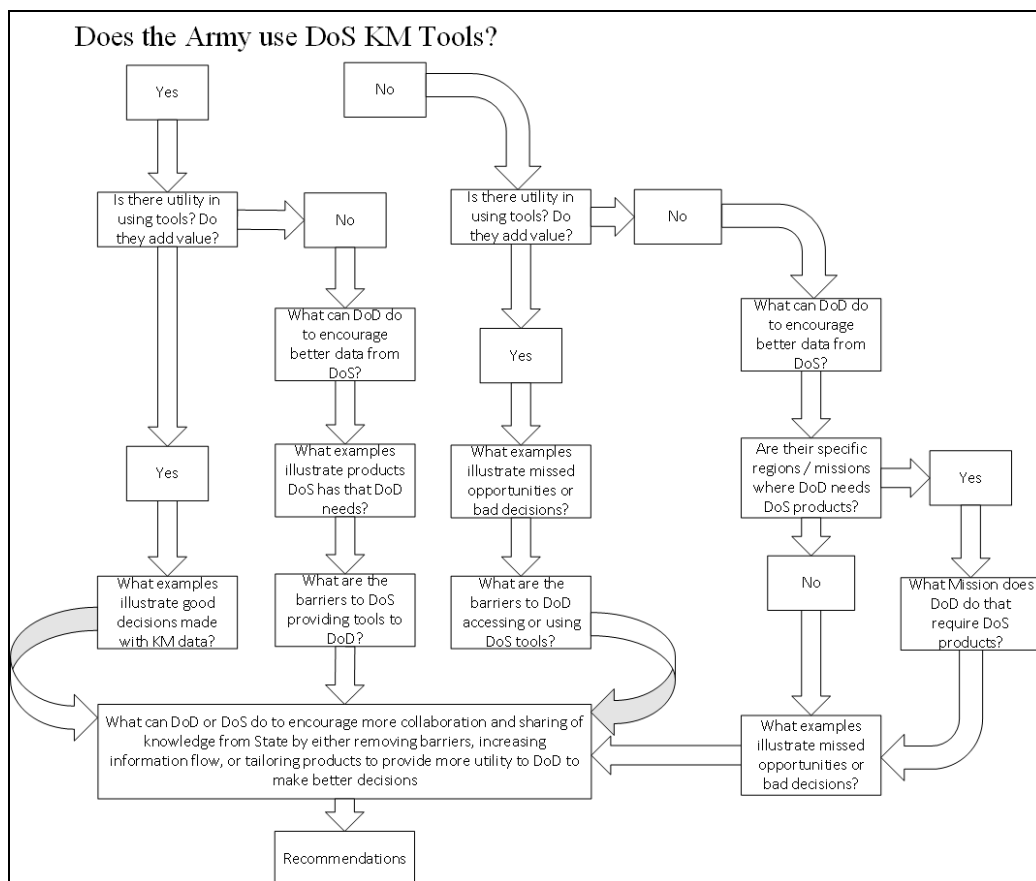
Figure 4.   Methodology Flow Chart

Source: Created by author.

The methodology was initially designed to explore how the Army uses DoS KM

tools. During the research several examples of both positive and negative interactions

between DoS and the Army based on KM tools were discovered. During the analysis, the

ways to overcome barriers associated with negative interactions were used as the basis

for the recommendations.

<center>Possible Sources of Bias</center>

All of the resources cited in the literature review and the references for this paper

provided the necessary information to complete the research methodology and answer the

research questions posed. However, in some cases the author's experience working with

the Department of State as a member of the Foreign Service, and as a Reserve Officer

with the U.S. Army could have created bias in interpreting the materials. Some of the

author's depth and understanding of this topic is grounded in over ten years of experience

working in both organizations, but this experience also has the potential to create biases

in the analysis.

CHAPTER 4

ANALYSIS

Current Uses and Value of KM Tools

The U.S. Army and DoS currently use multiple types of KM tools internally and externally to communicate and collaborate. These tools allow the organizations to communicate internally effectively, but are not fully developed for external use. The value and use of these tools is reinforced in the literature review where the value of KM and the tools used for KM were discussed. Using the model introduced for KM including people, processes, and technology, it is possible to frame how both organizations use KM tools to create value.

The people within both organizations rely on email and the associated global address book to find other people based on departments, locations and names. Using Microsoft Exchange and Microsoft Outlook, both organizations link people through email to process workflow, build understanding, and communicate knowledge. Email is a familiar system to users in both organizations, but is limited by the one to one or one to many relationships it is capable of for transmitting messages. During the literature review, countless examples of email interactions at all levels were found illustrating how comfortable both organizations are using this KM tool between each other. This provides an answer to our first research question asking if the Army uses DoS KM tools of any kind. However, it does not show what the value is and how effectively they are used.

To borrow from Army doctrine on strategy, we must not only show that KM tools are used, which is a measure of performance (MOP), we are also interested in how effectively the tools were used and if the goals of each organization were achieved. The

measure of effectiveness is referred to in Army terms as a MOE. Showing that the Army and State communicate with email illustrates they are performing interagency information sharing at some level, but it does not show that this activity is effective at communicating knowledge between the two groups.

In contrast to email, document management systems like SharePoint or wiki sites, can communicate information from many to many by allowing multiple authors and consumers. SharePoint is a commercial of the shelf software package from Microsoft that allows users to share documents and collaborate online using an interface designed for users instead of computer programmers. Wiki's are simple web pages combined in a site to allow any user the ability to create or edit a web page. These two alternatives also have the benefit of being text searchable and can be used to build organizational knowledge much more effectively than email based on the ability to store, transmit, receive, and archive information for groups to consume.

With email, the effectiveness of the KM tool is limited by who the person knows and decides to include in the email distribution list. Many people in an organization could benefit from information in an email, but if they are not included as an addressee, they will not benefit from the information. Wiki and SharePoint sites can be accessed by multiple users, thus adding more value and increasing the effectiveness of the tool in terms of communicating knowledge at multiple levels between the organizations for better decision making. While email is easier to use than document management systems, the contribution to knowledge within the organization is very limited based on who can access each email.

Technologies used by Department of State and the U.S. Army are surprisingly similar in terms of overall systems. Both organizations rely heavily on Microsoft Windows based clients and servers as well as email as a primary tool for knowledge workers at all levels. Both groups also have access to web-based online databases for knowledge management including Microsoft SharePoint, Media Wiki based Wikipedia systems, Microsoft SQL databases and integration of mobile devices to access these systems. Both organizations also operate different systems for different levels of classified data used to segregate data and information based upon sensitivity.

The Army has used wiki pages in MilWiki as well as Intellipedia to capture, store, and retrieve organizational knowledge, but these systems require common access cards (CAC) and public key infrastructure (PKI) certificates from DoD to allow access. This limitation on access makes these KM tools less pervasive and hard to access by State. If the Army is interested in getting knowledge from State based on their requirements for planning, limiting access to CAC card holders within DoD severely limits DoS users from accessing that information. Only liaison staff members assigned to DoD from State currently have access to DoD CAC cards, so people working in embassies overseas do not have access to any requests for information generated on Army wiki or SharePoint sites. This limits the Army planner's ability to request better data from DoS and moves the relationship between the Army and State back to email systems as a common method to exchange information.

State also uses SharePoint and wiki pages for KM on their OpenNet system, but this system is only accessible by DoS employees or member of other agencies working with State overseas in embassies. These two examples are just one way information and

knowledge is currently stove-piped within these groups and not shared with a process that allows access by members of the other group. Evaluating some of the most used KM tools in both organizations allows us to identify differences in them and possible ways each tool might be used to better encourage KM within the interagency relationship of DoS and the Army. While some tools offer benefits in the ways they can be accessed or are available, they also have risks in terms of confidentiality and integrity. This relationship is referred to as the confidentiality, integrity availability (CIA) triad by cyber security professionals. Using the CIA triad, we can quickly determine the strengths and weaknesses of some of these KM tools which helps to focus recommendations for the future. The information in table 1 shows selected different KM tools both organizations use and characteristics associated with the commonly used evaluation method of the CIA triad including confidentiality, integrity, and availability.[57]

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[57] Lara Khansa and Christopher W. Zobel, "Assessing Innovations in Cloud Security," *Journal of Computer Information Systems* 54, no. 3 (Spring 2014): 45.

Table 1.   KM tools used by both DoS and the Army with CIA triad

KM Tool	Communication Type	Confidentiality	Integrity	Availability
Email	One to one or one to many	Can be digitally signed and encrypted	Digital signature preserves content	Available easily and on mobile devices
SharePoint	One to many or many to many	Uses authentication and groups to identify users	Documents can be overwritten or deleted	Usually only available on internal networks
Wikis	Many to Many	Very little if any	None, all content can be modified	Currently requires a CAC card for external use for Army and limited access at DoS
Directories	Many to many	None	Maintained by users and administrators	Accessible internally and on some mobile devices
Video Conferencing Adobe Connect (DCO)	One to many or many to many	Very little in commercial Unclassified	High, real-time content	Mostly available live once
Social Media Facebook, Twitter, Linkedin	One to many or many to many	None	Externally hosted, no guarantee	Accessible Everywhere

Source: Created by author.

There are common examples in every organization of knowledge that is easy to

codify through standard operating procedures (SOP) and other methods of capturing

processes and other types of knowledge that are much harder to capture or document.

One example of a process that occurs within the U.S. Army that is implicit is the production of orders. In each Division or Brigade, there is a SOP that outlines this procedure including templates, workflow processes, and standards as well as historical information. This process is codified, and if documented well, any new Officer that is transferred into the organization can refer to the SOP and glean an understanding of how the process works without doing it multiple times themselves. This allows the process to be completed more efficiently if people that normally conduct the process are not there or when new people are injected into the process. In contrast, a process within the State Department such as writing a diplomatic cable is much harder to codify and convert to explicit knowledge. While every U.S. Embassy worldwide generates diplomatic cables daily, they rarely follow the same process in different locations, and every cable may require different clearances prior to being sent back to Washington. This process may vary depending on who authors the cable, who is in the country when it is written, and even the current news happening the day it is written. Even though it happens every day, it is nearly impossible to generate a SOP that would have any value between locations and could be applied to any situation uniformly.

All the parts of knowledge management do not inherently require technology to achieve their goals of effectively capturing and distributing knowledge. In fact the U.S. military lessons learned during World War II derived from after action reviews (AAR) of service members conveyed knowledge to different units up and down the chain of

command with very little automation of computer resources.[58] The technology of today, including search engines, web-based databases, and collaboration portals all attempt to increase the ability to capture and distribute knowledge, but there are many challenges to knowledge management that are not based on technology used.

For instance, the average employee within both organizations primarily use email, internal web sites, and meetings as the foundation for decision making. With today's reliance on technology, the average routine of knowledge workers in most organizations is not that different. While research in knowledge management has increased regularly since 1993 with over 1,000 articles on the topic produced in 2011, much of this research is focused on business usage of knowledge management to increase profits by enhancing decision making versus public sector use.[59] While government organizations do not focus on profits, the efficiency of decision making for diplomacy as well as in the military is a concern for the nation. Given the similar technologies and KM tools used by both groups, and the value derived from using them internally, it is easy to see how building ways to share data between the groups and networks could be useful to transfer knowledge DoD has that State needs and KM that State has that DoD could use.

Current Relationships between DoS and the Army

The U.S. Army and DoS have relationships at the NSC level as discussed in chapter two as well as formal liaison officers from State at the GCC and Army staff

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[58] Claire M. McInerney and Michael E. D. Koenig, *Knowledge Management (KM) processes in Organizations: Theoretical Foundations and Practice* (San Rafael, CA: Morgan and Claypool, 2011).

[59] Koenig, "What is KM? Knowledge Management Explained."

serving at Main State in Washington. These formal relationships build a foundation for

KM, but issues still exist in these exchanges when considering KM tools. DoD and DoS

do not use a common information system. Without a common system it is very hard to

integrate diplomatic and military planning simultaneously which is required in the rapidly

changing world situation we face today. In Washington, at the highest levels of

interaction between State and the Army many other issues combine to make the

interagency relationship ineffective. Reports on the relationship indicate "parochial

departmental and agency interests, reinforced by congress, paralyze interagency

cooperation even as the variety, speed, and complexity of emerging issues prevent the

White House from effectively controlling the situation."[60] With these challenges at the

highest level, it becomes apparent that starting at the lower levels and attempting a

ground up solution might be the best way to effect change in the interagency adoption of

KM tools to foster better collaboration versus a top-down approach. Another benefit to

focusing at the embassy level is that "for many countries, particularly the smaller and / or

poorly-integrated ones not considered priorities by Washington, the ambassador-led

country teams do the heavy lifting and remain the lead abroad."[61] Many of these smaller

more remote locations are places Army planners would need the most assistance and

could benefit most from a better relationship with State at the Embassy level. In larger

first-world countries, the benefit of local knowledge is greatly reduced by available

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[60] Project National Security Reform, *Project on National Security Reform: Forging a New Shield*, accessed April 28, 2014, http://www.dtic.mil/cgi-bin/GetTRDoc?Location=U2&doc=GetTRDoc.pdf&AD=ADA491826.

[61] Anton K. Smith, "Turning on the Dime: Diplomacy's Role in National Security" (Paper, U.S. Army War College, Strategic Studies Institute, Carlisle, PA, 2007).

knowledge abounding on the Internet and through other sources. Focusing on small remote posts where the security cooperation mission is harder due to lack of knowledge may be a good place to start when building KM tools for Army planners at State.

At the operational level, Foreign Service liaisons serving at a COCOM cannot access the State network easily and Army soldiers working on exchanges with State or stationed at an Embassy cannot access Army networks easily. While the exchanges and liaison officers offer valuable advice and coordinate issues better than before, there is no automated way to accomplish KM with the different systems. In this case, if the liaison is on leave or a staffing gap exists, the interagency relationship suffers. Creating better KM systems accessible to all workers at the GCC could facilitate information flow that is not as dependent on people in the loop for every exchange. Building a repository of useful knowledge within the GCC for State related requests would also improve efficiency. In one example of this, SOUTHCOM was able to create a directory of non-profit groups operating in countries within their AOR with input from State and USAID. This directory allows all members of SOUTHCOM to tap into this information without direct access to the USAID or State person that created the information.

Another possible solution to improve collaboration and knowledge sharing at the COCOM level is the idea to collocate Department of State regional bureaus with GCC to strengthen coordination, knowledge sharing and allow the groups to be more agile when making decisions.[62] This new interagency regional headquarters would contain representatives from diplomatic and military headquarters and unify the command and

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[62] Atlantic Council Combatant Command Task Force, *All Elements of National Power: Moving Toward a New Interagency Balance for US Global Engagement* (Washington, DC: Atlantic Council, 2014).

policy of the U.S. in one location.[63] While this seems like it would be an easy solution to a well-documented problem, this would mean moving State's EUR and AF Bureaus to Germany, moving the EAP Bureau to Hawaii, and the WHA Bureau to Miami causing those bureaus to be disconnected from the rest of State in Washington, DC. Because the GCC lines do not match the State bureaus, State's NEA/SCA Bureau would fall partially to CENTCOM, but countries like India would not be represented accurately due to misalignment of DoS and DoD areas of responsibilities. Another solution would be to better align their knowledge instead of focusing on the physical boundaries. It would be possible to link the GCC and DoS Regional bureaus through dedicated networks or virtual networks that allow them to coordinate and collaborate with KM tools in real-time whenever needed. This would allow GCC integration with DoS Bureaus and not require actual moving of offices.

Defense Attaché Office DAO (DAO) and Offices of Defense Cooperation (ODC) located at U.S. Embassies around the world also facilitate a direct link between State and the Army. These offices are focused on security cooperation with the host nation military and offer a great source of knowledge about how the military works in a given country. The ability of State and U.S. Army planners engaged in security cooperation and collocated with the embassy to effectively use KM tools including email and SharePoint systems on OpenNet highlight an example of where good decisions are made using KM tools. Security is also a specific mission where embassy staff from State and Army Staff working within the DAO or ODC actively benefit from collaboration using KM tools.

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[63] Ibid.

However, mission that are not security cooperation based do not receive the same level of collaboration. In areas where ODC or DAO staff do not have expertise, locally engaged DoS staff could offer help to Army planners. After years of working in the embassy on logistics, communications, financial, security, medical, and development and aid, these local staff employees are a major source of knowledge within the U.S. government.[64] The local staff within an embassy are the subject matter experts (SME) in many fields, with large embassies employing hundreds of local employees. Foreign Service employees at embassies manage the local staff and could provide Army planners with detailed information on many local topics using their own knowledge and local staff expertise. While the deploying Army planners do not have a relationship with Foreign Service employees or local staffs usually the DAO or ODC staff members integrate with the embassy and could provide this link. Unfortunately, the DAO and ODC offices are usually focused on their missions and may not appreciate all the knowledge and expertise available in the embassy that visiting Army units could tap into for knowledge.

Depending on their service DAO and ODC officers receive different training resulting in a large variance of skills between officers assigned to work in DAO or ODC offices. [65] Some of the possible embassy staff sections and KM uses that Army planners and units overseas might exploit beyond assistance from DoD staff stationed at an embassy are listed in table 2.

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[64] Shawn Dorman and American Foreign Service Association, *Inside a U.S. Embassy: Diplomacy at Work* (Washington, DC: Foreign Service Books, 2011).

[65] Steven C. Boraz, "Behind the Curve in Culture-Centric Skills," *Proceedings* 131, no. 6 (June 2005): 41.

Table 2.   Embassy sections with useful KM products to the Army

Embassy Section	Knowledge	Army Section	Application
General Services Office (GSO)	Contracting, Logistics, Motor pool	S-4 (Logistics)	Local knowledge of shipping, road networks, services available in country.
Information Management Office (IMO)	Telecommunications, Computer networks, mail, pouch, radios	S-6 (Communications)	Local knowledge of available technologies, Possible sharing of resources and networks.
USAID	NGOs, local projects	S-2 (Intel), Planners	Historical NGO and project insight
Financial Management Office (FMO)	Financial structures, local currency	Finance, Contracting	Local knowledge of banks, currency
Human Resource Office (HRO)	Local labor laws, Embassy staffing	S-1(Personnel)	Local knowledge of HR issues
Community Liaison Office (CLO)	Local events, embassy activities	ALL	Local knowledge of culture, events

Source: Created by author.

This is a case of not knowing what you don't know and tacit knowledge not being converted to explicit knowledge. If the SMEs in an embassy were proactively documenting their knowledge using a KM system, then an Army planner could tap into that resource whenever it was needed and ODC or DAO sections could guide units deploying to that resource. Expecting the local staff and Foreign Service employees to act on every request by Army planners is also not practical, nor is expecting the DAO or ODC to act as a liaison to the embassy on all issues. Having an accessible resource of embassy specific knowledge in a format that is easy to update and search would be one solution.

Possible Specific Regions and
Missions for KM Tool Use

One hypothetical example of such an interaction could be an Army unit from Kansas that is regionally aligned with AFRICOM accessing a wiki maintained by staff from the GSO, IMO and USAID sections in a western Africa country. In the KM tool, the embassy staff could list information about airports, logistical routes, shipping and customs rules from the GSO section. The IMO section could maintain and update resources related to cell phone providers, telecommunications solutions, wireless internet availability, and radio frequencies authorized for use in country. The USAID office in the embassy would list NGO contacts, contracts and project information as well as local staff contacts specializing in certain programs. Using this wiki resource, a deploying Army unit could start working earlier with the ODC and DAO in the country, and would arrive in country better prepared. They could theoretically determine the best ways to move to their location, ship their supplies in country, communicate immediately with cell phones that work when they step off the plane, and have existing relationships with local embassy contacts when they arrive. However, before this can happen, we must overcome the existing barriers between the Army and State that limit the use of KM tools.

Another area where DoS and the Army have an existing relationship is in exchanges of staff. While the exchange programs between State and the Army are helping to build more of base for trust between the organizations, these interactions are too limited to impact the entire organization. At the Command and General Staff College, over one thousand Majors attend classes each year, while less than ten members of State's Foreign Service attend. These engagements are far too limited to have a lasting impact on the culture of either group. They do afford the opportunity to build some

personal connections and develop a better understanding of what each agency does, but

the impact is far too limited. State had 13,801 Foreign Service employees in December of

2014, with the majority of them serving overseas in 275 Missions worldwide.[66] Given

our relations with 190 countries and the small size of the Foreign Service it is not difficult

to understand why domestic liaison and interagency education assignments are not the

Department's priority. Another stark contrast between DoD and DoS is their budgets.

DoD's budget is almost fifty times larger than State's budget making the lack of Foreign

Service employees only part of the reason that more liaison officers from State at DoD is

not possible.[67] Figure 5 from the illustration shows the dramatic difference in funding

between DoS, DoD and other agencies.[68]

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[66] Department of State, "HR Bureau HR Fact Sheet 2014," accessed April 28, 2015, http://www.afsa.org/Portals/0/1214_state_dept_hr_factsheet.pdf.

[67] Smith.

[68] David Grambo, Barrett Smith, and Richard W. Kokko, "Insights to Effective Interorganizational Coordination," *InterAgency Journal* 5, no. 3 (2014): 3.
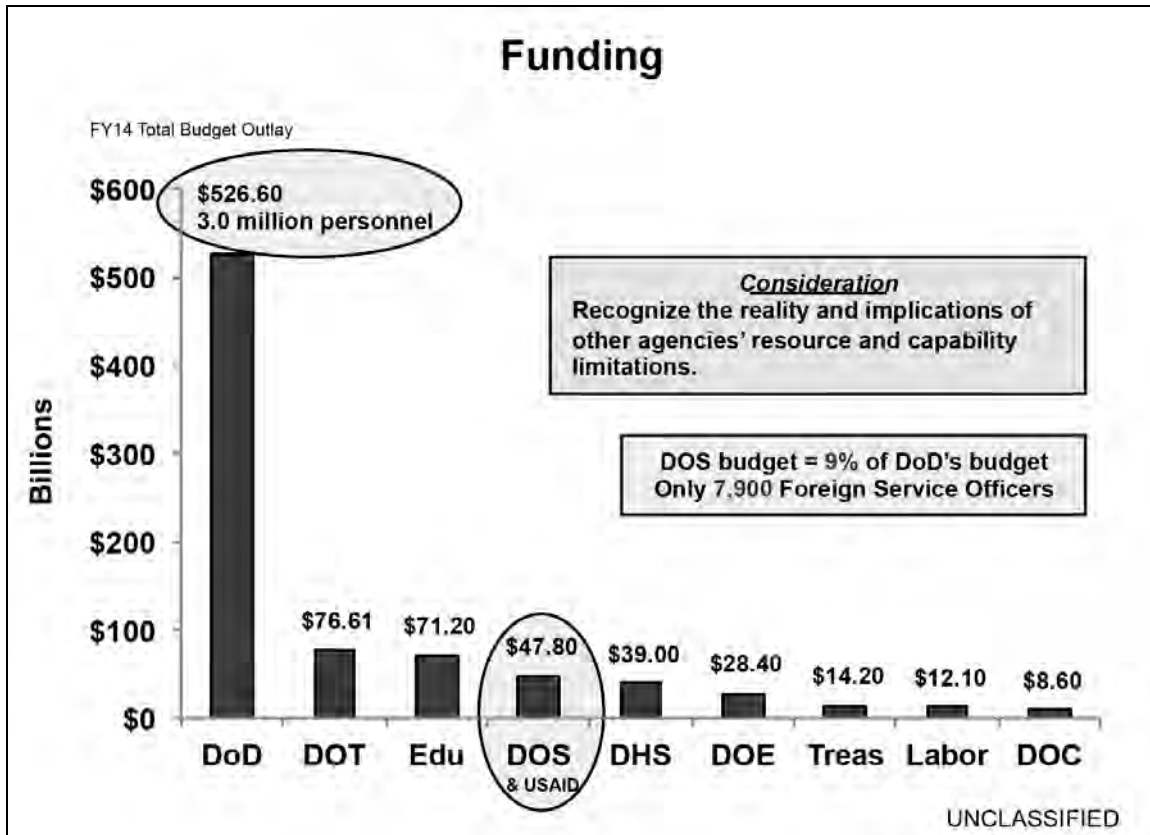
Funding

FY14 Total Budget Outlay

$526.60
3.0 million personnel

Consideration
Recognize the reality and implications of other agencies' resource and capability limitations.

DOS budget = 9% of DoD's budget
Only 7,900 Foreign Service Officers

	Value
DoD	—
DOT	$76.61
Edu	$71.20
DOS & USAID	$47.80
DHS	$39.00
DOE	$28.40
Treas	$14.20
Labor	$12.10
DOC	$8.60

UNCLASSIFIED

Figure 5.   2014 Funding comparison of DoS, USAID and DoD

Source: David Grambo, Barrett Smith, and Richard Kokko. "Insights to Effective Interorganizational Coordination," *InterAgency Journal* 5, no. 3 (2014): 3.

While many people within State and government have argued that State needs more people and a much larger budget to meet their global responsibilities, nation-building and diplomacy are not the national priority for the executive or legislative branches.[69]

Building horizontal relationships between Army planners and employees overseas at Embassies is important to sharing knowledge. However, given State's small Foreign

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[69] Smith.

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Service staff and the Army's size, new methods to create and build relationships that foster relationships critical to successful KM are needed. KM tools that make these relationships easier to build, maintain and even create opportunities to share data without personal interaction each time would be optimal given State's small Foreign Service.

<u>Barriers to KM Use: U.S. Army and DoS Culture</u>

The U.S. Army and DoS culture issues identified in the literature review clearly identify that while both organizations are government based, their goals and methods for achieving their goals often differ significantly. Trust is listed as the factor that contributes most to overcoming issues with different cultures. Public perception of the Army as a trustworthy organization waivers when negative stories about both the organization and individuals inside it are revealed. Individual actions like those of PFC Bradley Manning, the soldier that publically shared thousands of confidential and secret State Department cables, have had a devastating impact on trust between the groups.[70] Actions by the Army as an organization like waiting to release details of the death of Pat Tillman in Afghanistan until after his public memorial service show the Army sometimes places their agenda ahead of even their own heroes.[71] While State also has controversies in the Benghazi affair and questionable email practices by Secretary Clinton hit the media as well, the overall impression the media portrays is of two organizations that cannot be trusted at all times and have members who can make poor decisions. While these examples show both groups have work to do in restoring the public trust, the incident

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[70] Charles D. Allen and William G. "Trey" Braun III, "TRUST: Implications for the Army Profession," *Military Review* 93, no. 5 (September/October 2013): 73.

[71] Ibid.

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with PFC Manning has implications beyond trust and culture that impact information sharing directly and should be addressed in depth to understand some of the challenges we now face in sharing information between State and the Army.

<div align="center">Information Sharing after WikiLeaks</div>

A full discussion of the events that led to the WikiLeaks data breach and the impact it had on the U.S. government is available in other formats and is not the focus of this thesis, but it is important to address how that event has shaped information sharing and the way the DoS operates.[72] In order to understand the parts of that breach that impact KM and interagency relations, we must first look at how the breach was possible.

After the events of 9/11 and the revelation that a failure of information sharing between government agencies was one of the issues, a program called Netcentric Diplomacy or NCD was developed to allow diplomatic cable traffic from the DoS to reach other agencies. This system required users to add a caption in State terms or metadata in KM terms for SIPR distribution (SIPDIS). Metadata is simply data to describe data. In this case, the SIPDIS caption was added to each diplomatic cable to describe the author's intent to share the document with other agencies. If the document was not particularly useful to other agencies or so sensitive the author did not want to share it, it should not have included the SIPDIS caption. Clearly, some cables released in WikiLeaks did not have use for other agencies and probably should not have had the SIPDIS caption. However, Foreign Service officers have indicated that they were encouraged to use the SIPDIS caption on all cables to promote sharing information. An

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[72] David Leigh et al., *Wikileaks: Inside Julian Assange's War on Secrecy* (New York: Public Affairs, 2011).

OIG report in 2008 revealed that DoS reviewed a selection of cables to make sure the

SIPDIS caption was being used correctly and they found no issues with cable traffic and

how the caption was being used by diplomats drafting cables.[73] This clearly shows that

the OIG was also supporting the idea that the Department should lean toward sharing

information more and reinforces the idea of a "need to share" versus a "need to know"

practice as was previously the case. Consequently, the NCD database contained

thousands of cables that did not pertain to DoD or the Army and there was no reason to

share them with the interagency. Had State used the SIPDIS caption more effectively as a

tool to flag cables that were actually of use to interagency instead of making it a default

caption on many templates, the access of PFC Manning would have been restricted to a

much smaller number of cables. PFC Manning was able to copy the cables off the secure

system using a rewritable compact disc writer that was allowed on the system he used to

access the NCD database.[74]

Since WikiLeaks, access to the NCD database was moved to a system within the

Army that does not have access to compact discs, thus eliminating the possibility of the

exact same breach happening again. However, despite the move many diplomats that saw

there diplomatic cables publically with their names on them no longer trust the system.

Many diplomats immediately after WikiLeaks reported that the breach severely affected

their ability to get information from contacts and that they were drafting fewer cables

with less specific reporting and using non-record emails or phone calls in lieu of the

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[73] Department of State, "OIG Semiannual report to Congress Report, 2008," accessed March 9, 2015, https://oig.state.gov/system/files/115621.pdf.

[74] Massimo Calabresi, "The War on Secrecy," *Time* 176, no. 24 (December 13, 2010): 30.

diplomatic cable system. Diplomatic cables are the foundation of reporting from embassies overseas to Washington and have been the historical record and principle method for communicating encrypted diplomatic messages since 1866.[75] The vast number of cables and the historical record they provide illustrates one of the ways State has been very successful at capturing information and preserving it, which are critical to KM. However, the shift to email, phone calls, and other methods of communication not archived officially by DoS due to WikiLeaks threatens this historic tradition of KM using official diplomatic cables. While many reports claim that the impact of WikiLeaks was embarrassing, but not damaging to the DoS, these claims are based on the actual outcomes of the cables that were leaked and not the future relationships or losses to KM that have yet to be fully realized.[76] The diplomats that saw their reports from cables released to the public had to do damage control to attempt to rebuild trust with contacts. This negatively affected those relationships. They will not forget how the information systems did not protect them, and how the trust in the Army was misplaced.

Diplomats with personal experiences involving the WikiLeaks breach may never recover the ability to trust interagency knowledge sharing systems, but in time new diplomats raised as digital natives with exposure to Web 2.0 tools like Facebook and Twitter seek to engage in KM with interagency partners in new ways to create efficiencies and build social relationships that older digital immigrant diplomats would not likely embrace. State has been able to add people to the Foreign Service under the

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[75] David P. Nickels, *Under the Wire: How the Telegraph Changed Diplomacy* (Cambridge, MA: Harvard University Press, 2003), 272.

[76] Alex Spillius, "US Diplomatic Cables Leak 'Caused Little Damage'," *The Daily Telegraph* (January 20, 2011).

Diplomatic Readiness Initiative (DRI) bringing new blood and positions to DoS in recent years.[77] However, unless new KM tools are developed and used by these digital natives joining State, they will not be able to leverage their abilities fully. Prior to Secretary Colin Powell's first round of DRI, the DoS did not even have access to the Internet on the desktop in locations overseas severely limiting access to information. Today, the DoS is moving toward mobile technologies, collaborative solutions including SharePoint and Wikis, as well as exploring new ways to use technology in embassies with their office of eDiplomacy that works on bringing technology solutions and users together at State.

<div align="center">Knowledge Management Challenges</div>

While most organizations struggle with knowledge management, the literature review highlighted the problems unique to State and the Army including over classification, different cultures, stove-piped information within each organization, lack of rewards and reasons to take on risk when sharing information and knowledge management practices that have not been completely integrated into operations of either organization.

Classifications of data are a significant barrier to information sharing across agencies. While the need to share data was stressed after the attacks on September 11th, the need to know was reasserted with the WikiLeaks incident involving PFC Bradley Manning. Over classifying data within State and DoD is an issue for KM. In order for knowledge management to be successful, accurate data including metadata like

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[77] Kori N. Schake, *State of Disrepair: Fixing the Culture and Practices of the State Department* (Stanford, CA: Hoover Institution Press, 2012).

classification is critical as well as organizing and sharing knowledge with the right people.

With the focus on cybersecurity within both organizations, barriers to sharing information abound. There is no quick solution to the classification issue, but by focusing first on only unclassified data and KM tools, it might be possible to begin overcoming the barriers of culture and relationships. It will also be possible to find ways to integrate and promote KM tools that are unclassified in a less hostile and contentious deployment if only unclassified data is the target. Many of the opportunities for collaboration with embassy sections and Army planners listed in table 2 would consist solely of unclassified data. By focusing on short-term wins or "quick wins" that allow both organizations to rebuild trust and work together we can start solving the problem of interagency knowledge sharing using technology tools incrementally. Kotter identifies short-term wins as one of the necessary steps for leading organizations through any change process to engage and enable the whole organization.[78] This approach not only has the advantage of meeting less resistance in both bureaucracies, but it could also potentially be accessed on mobile devices providing even more availability and value.

In the example of an Army unit deploying to Africa, having good temporal data at the unclassified level would be more beneficial than information and knowledge with higher classifications that is not as up to date. Referencing table 1 and the KM tools available, a wiki would be the most useful KM tool for this application given the need of a many to many interface that is quickly updated. The need for confidentiality and

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[78] John P. Kotter, *Leading Change* (Boston, MA: Harvard Business School Press, 1996).

integrity of this data would not be as critical as the need for availability and a means to keep the data up to date.

Stove-piped knowledge or "silos of excellence" as they are called, exist when groups and organizations hoard knowledge and only allow flow up and down their bureaucratic hierarchy. This does not allow knowledge flow horizontally across the group or laterally to other external organizations. Allowing government-wide KM technology that crosses organizational boundaries and even extends to allied nations, NGOs, academic institutions, and the private sector is recommended by the Advisory committee on transforming diplomacy in their report on how the State Department should look in 2025.[79] The report also cited a need for incentives to move from the "need to know" to "need to share" and formation of standing information sharing partnerships.[80]

Incentives to share knowledge given the WikiLeaks history and risks involved are one of the biggest barriers to adoption of KM tools. Until leaders within State and the Army develop ways to reinforce the value of sharing knowledge both internally and externally, the culture in both groups will not change to support active participation and full use of KM tools. Possible solutions to the incentives could be building the requirement to share information both internally and externally into precepts for evaluation in DoS and add them to core competencies required of all Army Officers. Adding a formalized requirement in evaluations will create some incentive, but only when individuals personally see the value of sharing can adoption thrive. Having leaders

[79] Barry Blechman, Thomas R. Pickering, and Newt Gingrich, *Advisory Committee on Transformational Diplomacy: Final Report of the State Department in 2025 Working Group* (Washington, DC: U.S. Department of State, 2008).

[80] Ibid.

that promote KM tools, reinforce their uses and prioritize training is important. Leaders

also need to understand the importance of the interagency approach. Leader involvement

in promoting the technology, reinforcing the value of KM to the people, and promoting

tools are necessary to overcome barriers associated with interagency KM tool adoption.

<u>Historical Analysis of Integrated Planning</u>

Several accounts of positive and negative events were identified in the literature

review. Primarily cases where information was reported as flowing well between the

organizations, it was a direct result of positive human interactions by top leaders within

both groups identifying the importance of sharing knowledge and establishing

information sharing a priority from the top down. In the cases of Iraq and Haiti outlined

in the literature review, direct involvement by State in early stages of operations as well

as continued integration throughout the efforts was clearly a key factor to collaboration

and coordination. This highlights the importance of the human element in any knowledge

management solution, but also identified how fragile these systems can be if they are

built on personal relationships and those relationships change when staff and leadership

rotate.

In Afghanistan, the issue of Army and State coordination and knowledge sharing

was evident as early as 2003 when Operation Enduring Freedom transitioned to stability

operations.[81] Army personnel coordinating with State quickly realized that planning was

not a core competency at State and formed an interagency planning group led by a

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[81] Tucker B. Mansager, "Interagency Lessons Learned in Afghanistan," *Joint Force Quarterly* no. 40 (First Quarter 2006): 80.

Colonel to work at the embassy and coordinate plans in person.[82] Also noted in the analysis of Afghanistan's interagency relationship was the strong bond between General Barno and Ambassador Khalilzad reinforcing the importance of people and relationships in the interagency relationship.[83] However, this relationship and the benefits ended when AMB Ronald Neumann and LTG Karl Eikenberry replaced them.[84] One issue highlighted involves people stationed at Bagram Air Base coordinating plans with people at the Embassy in Kabul. In this instance, the distance strained the relationship and threatened the interagency coordination. The solution was to move elements to the Embassy. However, an alternative solution might have been a very aggressive knowledge sharing plan that linked networks, utilized KM tools including documents sharing and video conferencing to facilitate the coordination. Efforts were made in Kabul to link the Embassy closely with DoD personnel, but a complete integration of KM tools between State and DoS has never been fully explored. This represents a potential missed opportunity to fully use KM tools to improve interagency knowledge sharing. The situation in Afghanistan's interagency relationships was so bad that one former senior official noted that the lack of unity of command based on interagency relationship failures was a bigger problem than the Taliban.[85]

Again at the heart of the issue is disjointed networks that do not communicate well to share knowledge. At the embassy level, Integrated Country Strategies (ICS) are

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[82] Ibid.

[83] Ibid.

[84] Pope, 196.

[85] Ibid.

published every three years with Joint Regional Strategies (JRS) containing the combined strategies of USAID and State for each Mission overseas. However, Army units deploying to those countries do not have network access to these fundamental documents that would allow planners to better understand State's operations. If a unit has leaders that are well versed in interagency coordination and KM, they might know to ask the DAO or ODC to email them a copy, but in many cases they do not get this information that would form a foundation for shared understanding. This is another huge missed opportunity for using KM tools to improve interagency coordination. One solution here is to post these plans to Diplopedia, the Department of State's wiki. This Wiki is mirrored on Intellipedia so Army planners could access it with a CAC card. DoS already posts country profiles and country reports as well as biographies on Diplopedia, all of which would be useful for Army units to reference when planning missions overseas.

<u>Building Trust by Focusing on the People Part of KM</u>

As the literature review and analysis have shown, building personal relationships and trust between State and the Army is critical to both interagency coordination and successful KM. One way to expand relationships and build connections is through social media focused on professional relationships. Linkedin is a social media web platform used to network and build professional relationships. While DoD has an internal directory that can be used for professional networking called milBook that has over 300,000 users, this system is only available to DoD users with access to the Milsuite website.[86] The

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[86] Argie Sarantinos-Perrin, "Army chooses milBook to reach broader audience," accessed April 28, 2015, http://www.army.mil/article/104428/ Army_organization_chooses_milBook_to_reach_broader_audience.

Department of State also has an internal networking system called Corridor, which is also only accessible by DoS users on their intranet ironically called OpenNet.[87] In a recent *Military Times* article, Secretary of Defense Ashton Carter acknowledged DoD's archaic personnel systems and actually recommends Linkedin by name as part of a recommended solution to better manage the people within DoD.[88]

Both organizations recognize the value of professional networking and building relationships and informal groups within their ranks, but neither current system includes a way to include members of the other group making them useless to the Interagency KM issue. One possible solution is enabling guest users from other U.S. government networks. Another option is adopting a commercial solution like Linkedin that exists outside either agency and would allow not just members of DoD and DoS to collaborate, but could also include NGO's foreign military contacts, USAID staff, and others critical to building shared understanding overseas when we are promoting the U.S. interests overseas. Many users from DoD and DoS already use Linkedin as a solution to network, so adopting the platform for them would be seamless. As mentioned previously, focusing on lowest level of the individual Army planner and embassy personnel at the unclassified level is the goal, so Linkedin seems like a viable KM tool that could be leveraged for a quick win to connect people otherwise not linked and start building and maintaining a stronger relationship between State and the Army.

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[87] Department of State, "Major Programs of IRM's eDiplomacy," accessed April 28, 2015, http://www.state.gov/m/irm/ediplomacy/c23840.htm.

[88] Andrew Tilghman, "Carter: Toss vintage personnel systems," accessed April 28, 2015, http://www.militarytimes.com/story/military/pentagon/2015/04/12/carter-social-media/25513773/.

Competing Systems and Information Overload

One new technology is a recent offering from a commercial provider paid for by the National Geospatial-Intelligence Agency (NGA) called Protected Internet Exchange available at www.PixToday.Net. This service is also a wiki based sharing portal that groups content based on geographic regions and allows different government agencies the ability to collaborate on a portal external to their agency at the unclassified level FOUO/SBU level. This new offering does encourage cross-agency sharing of data and is based on an easy to use wiki system. It also includes technology to directly send emails to the portal which allows easy collaboration. However, there is a barrier to adoption based on the portal creating the potential for more work based on duplicating efforts already taking place within each organization. The PixToday system has not been widely publicized within DoD or DoS, and appears to be growing very slowly based on limited content currently posted.[89] Other solutions by the All Partners Access Network (APAN) have been used for disaster relief and humanitarian aid coordination in crisis situations. These systems are used by multiple organizations during a crisis, with the most recent example being the PACOM effort to share situational awareness on the Nepal earthquake aid efforts.[90] The use of the APAN system during a crisis is a positive example of how collaboration can work between interagency partners, but this example is not enduring to benefit daily operations.

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[89] All Partners Access Network Apan.org, "PixToday.Net Website Information," accessed April 28, 2015, https://community.apan.org/scape/m/mediagallery/123650/.

[90] All Partners Access Network Apan.org, "Nepal HADR," accessed May 4, 2015, https://community.apan.org/pacom-hadr/nepal_hadr/m/mediagallery/144822.aspx.

The Office of Management and Budget (OMB) also has a portal called Max that is available to all Federal agencies for collaboration and knowledge sharing. The Max.gov suite of KM tools offers several document management solutions including SharePoint. It also offers blogs, wikis, survey tools, video conferencing and even databases for shared access across agencies to foster collaboration.[91]

The challenge with multiple cross agency solutions all creating portals is trying to avoid duplication of effort and focus users on a solution that meets their needs. Within the DoS and the Army, it is unlikely that Federal agencies with mostly domestic missions would want or need to access data, information, and shared knowledge critical for deployments overseas. The possibility for cross-agency collaboration on budgeting data or other shared processes is compelling for OMB. Isolating geographic areas like the PixToday solution also looks like a possible solution to some barriers explored in this study. However, another barrier is created as multiple sites overlap and users within the Army and the DoS might experience information overload as they try to explore, maintain, and produce information and knowledge using tools on competing systems.

An interagency approach for the Army and DoS that identifies the optimal information flow, removes barriers, and does not create duplicate effort is important in any recommended solution.

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[91] Office of Management and Budget, "Max.Gov Wide Range Technology Stack," accessed April 28, 2015, https://max.gov/maxportal/assets/public/ MAXCapabilitiesOverview.pdf.

Measuring Progress on Cooperation and KM Tool Used

The ability of DoS and the Army to build relationships and begin using KM tools will be incremental and slow at first. However, it is still important to document any uses so we can expand them or improve them. Measuring progress might include AAR's on events overseas that recap what if any KM tools were used on a deployment and the outcome. It also might be possible to gather metrics from systems at State or the Army to measure usage of websites to measure progress. Currently any data showing trends in actual KM tool usage between groups is scarce and most anecdotal. Once again, the importance of separating measures of performance (MOP) from their effectiveness (MOE) is also important to not just track if we are doing things right by meeting milestones for sharing with KM tools, but also doing the right things to achieve our goals of making better decisions using the data we share.

One possible issue with measurement is access to logs and read-only versions of KM tools. Diplopedia, the site State uses as a wiki, is updated frequently by users around the world, but the version at Intellipedia is only updated a few times a year. When it is updated, the data is overwritten and no access logs showing how the data was accessed by the Army is saved. Since it is read-only, members of DoD cannot add content for State to use, either. The ability to access data actively created and updated by State within the DoD network is a great step forward, but shipping logs back to State and allowing some method for DoD to add content would make this solution much more useful.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Findings

The U.S. Army does use KM tools at different levels to collaborate with the DoS on interagency issues and plans. Research indicates that most of the collaboration is done via email, and works best when elements from DoD and State are collocated and strong personal relationships are formed.

DoD and the Army does not utilize other KM tools like SharePoint or Wiki pages due to organizations working on different isolated information system networks. In one case, Diplopedia, State's wiki is mirrored across to DoD and is accessible by Army planners (See APPENDIX A for screenshots). However, the value of this resource and how to access it has not been promoted to Army planners. One way to overcome this issue is training. If U.S. Army planners were exposed to DoS KM tools during training exercises and in individual training at TRADOC schools, the gap on what the tools could provide and how to access them could be narrowed. DoS has KM products and expertise that could be of use to Army planners, and could create more content if there was a market for these KM tools and the Army promoted their use. Several barriers to adoption exist including culture, classifications, risk avoidance, and rewards for using KM tools. DoS and the Army can expand the usage of KM tools by promoting their use and building personal relationships through other systems to maximize interactions at lower levels and create some "quick wins" to get KM tools used at lower levels wherever possible.

Any expansion of use with KM tools both internally and externally will help move both organization toward better shared understanding and improve interagency knowledge sharing to allow members to make better decisions using combined knowledge.

<div align="center">Recommendations</div>

1. Work to expose knowledge management systems and tools from State to U.S. Army networks and users. Focus on easy to integrate systems with most benefit like Diplopedia.

2. Build systems and tools that are accessible via mobile devices by both groups.

3. Integrate PKI authentication with cross-site trusts so users in both organizations can access content from each other easily.

4. Utilize commercial off the shelf systems and services to build relationships and integrate groups with common goals and missions between organizations.

5. Provide feedback on all knowledge management products and systems to both groups to track which systems provide the most value and identify methods for tailoring content and capabilities to match user requirements.

6. Where possible fund initiatives jointly so that both groups have a stake in the outcome and can work together with a sense of ownership on initiatives.

7. Focus on unclassified opportunities to build "quick wins" and success stories that show that collaborations and data sharing is possible, provides value, and makes a difference in decision making.

8. Integrate knowledge management into day to day business processes within and between both organizations to foster continual improvement of processes and collaboration that exists before a crisis.

9. Build trusts between members of each group by encouraging collaboration on any aspects of both organizations missions whenever possible. Encourage whole of government approaches through daily integrated plans.

10. Continue to reevaluate the relationships between State and the Army at all levels and after each engagement opportunity overseas. Determine what worked and what did not and how we can shape future outcomes. Publish findings in the *InterAgency Journal* to track performance and changes.

<u>Summary of Conclusions and Recommendations</u>

While much research was found outlining the problems of interagency cooperation in the U.S. government and the direct issues between State and the Army are documented well historically, most recommendations focus on integrating the organizations better through training opportunities, physical colocation, or from the top down. The span of academic articles found in the literature review cover over fifteen years with many of the same issues appearing time after time. This serves to not only highlight how much this issue is important to both groups, but also how there is no simple solution. Several of the recommendations from articles focused on training have been implemented to some degree and progress is being made in some cases at many levels of interagency relationships. However, until more Army overseas planning includes interagency input from State there will be room for improvement.

Many of the recommendations offer "quick wins" that would help to incrementally change how KM tools are used and offer value even if marginally adopted. Even if only a few Army planners in a few units use these KM tools before going overseas, the benefit could at the very least make the deployment easier and possibly save money and lives. In some circumstances the knowledge gleaned from State could provide critical insight that may change how the unit executes their mission and effect the decisions they make.

<p style="text-align:center">Additional Research</p>

The limitations of time and classification focused this research to qualitative analysis of existing research and unclassified sources. Additional research using human subjects and a survey tool exploring the use of KM tools by members of DoS and the Army in specific areas would provide more insight into the value of the tools. Looking at the GCC level, the regional level, and the embassy level with a survey tool could illuminate ways to encourage usage, overcome barriers to adoption at different levels, and determine ways to tailor products to meet KM requirements not being met by current systems and tools. Further research may show that different approaches are more effective at AFRICOM or EUCOM than NORTHCOM and KM tools that work well at the GCC level do not work well with an embassy.

A classified study that looked at all networks operated by the DoS and the Army and how KM tools are used on networks of different classifications might also reveal areas for improvement of knowledge sharing. Comparing different networks and how they are used might reveal relationships between DoS and the Army that were not identified in this study and provide more insight into the issue of interagency KM.

This study focused mainly on knowledge management tools that use collaboration systems based on technology State and the U.S. Army currently both use where they could currently most easily share knowledge. The information in these systems is formatted in documents, spreadsheets and to a lesser extent databases. This information is shared easily with wiki platforms, collaborative document systems, and email. However, there are also intriguing KM tools that are used by organizations to share linked raw data before it is processed and formatted in documents and posted to web sites. This expanding field of knowledge management based on linked raw data holds great promise for the U.S. Army and State if they can begin to harness raw data and process it at the user level to make better decisions in the future. Before we can study how raw linked data might facilitate sharing data in the interagency environment, organizations need to develop and expand these technologies internally.

Finally, a quantitative study using server access logs on both DoS servers and Army servers to identify when products were accessed by members of different Army units could reveal trends and statistically significant factors that contribute to KM tools being used in certain situations. Web analytics could also reveal which documents were accessed most by which groups and this data could be used to issue surveys to determine ways to improve the interagency KM process.

APPENDIX A

EXAMPLE SCREENSHOTS OF KM TOOLS
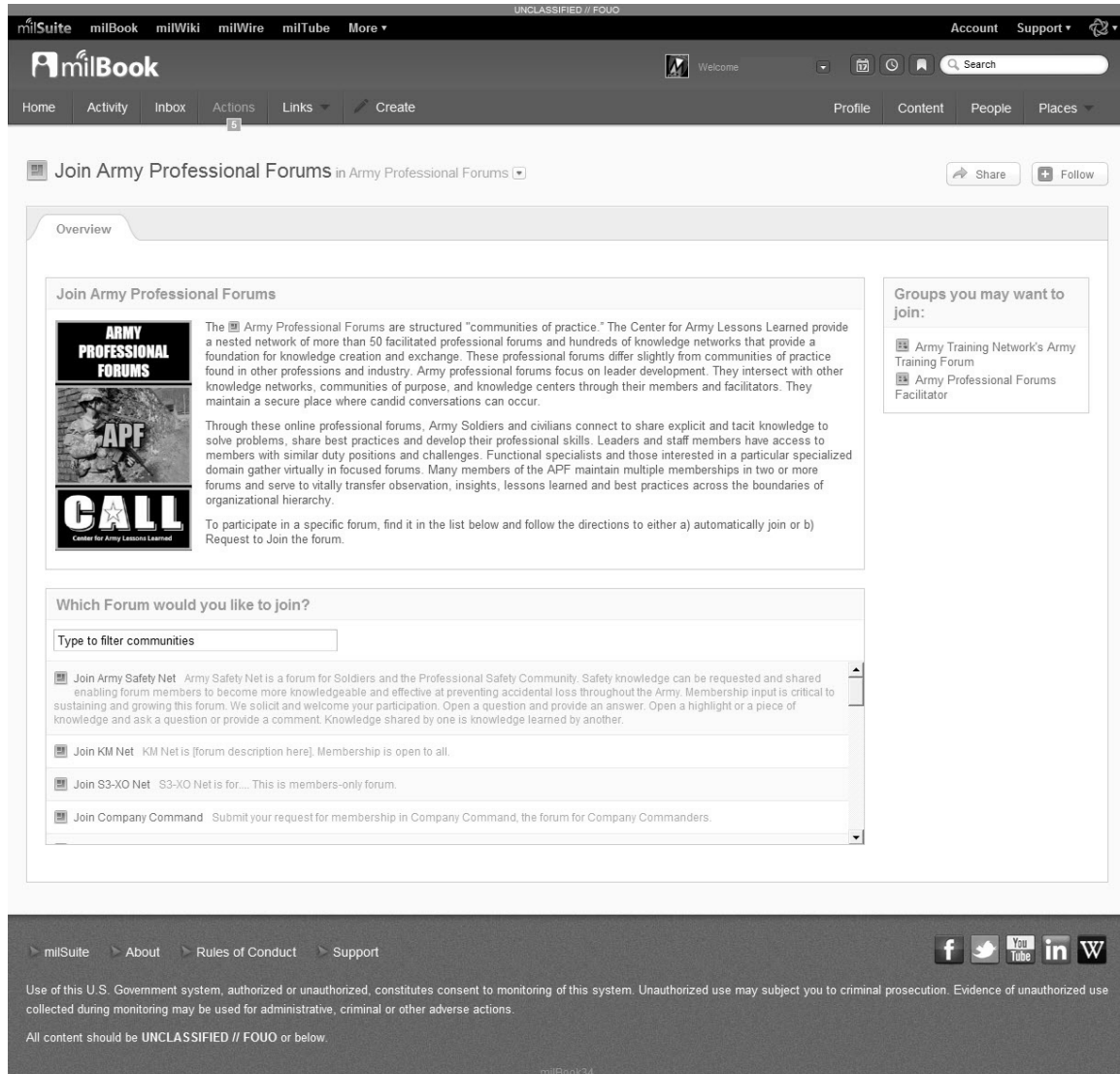
Source: milBook Website, "Join Army Professional Forums," milBook online website portal, accessed April 8, 2015, https://www.milsuite.mil/book/community/spaces/apf/join-apf

Source: Diplopedia website accessed through Intellipedia, "Welcome to Diplopedia," Diplopedia online Diplomatic Wiki, accessed April 8, 2015, https://www.intelink.gov/diplopedia/index.php?title=Main_Page.
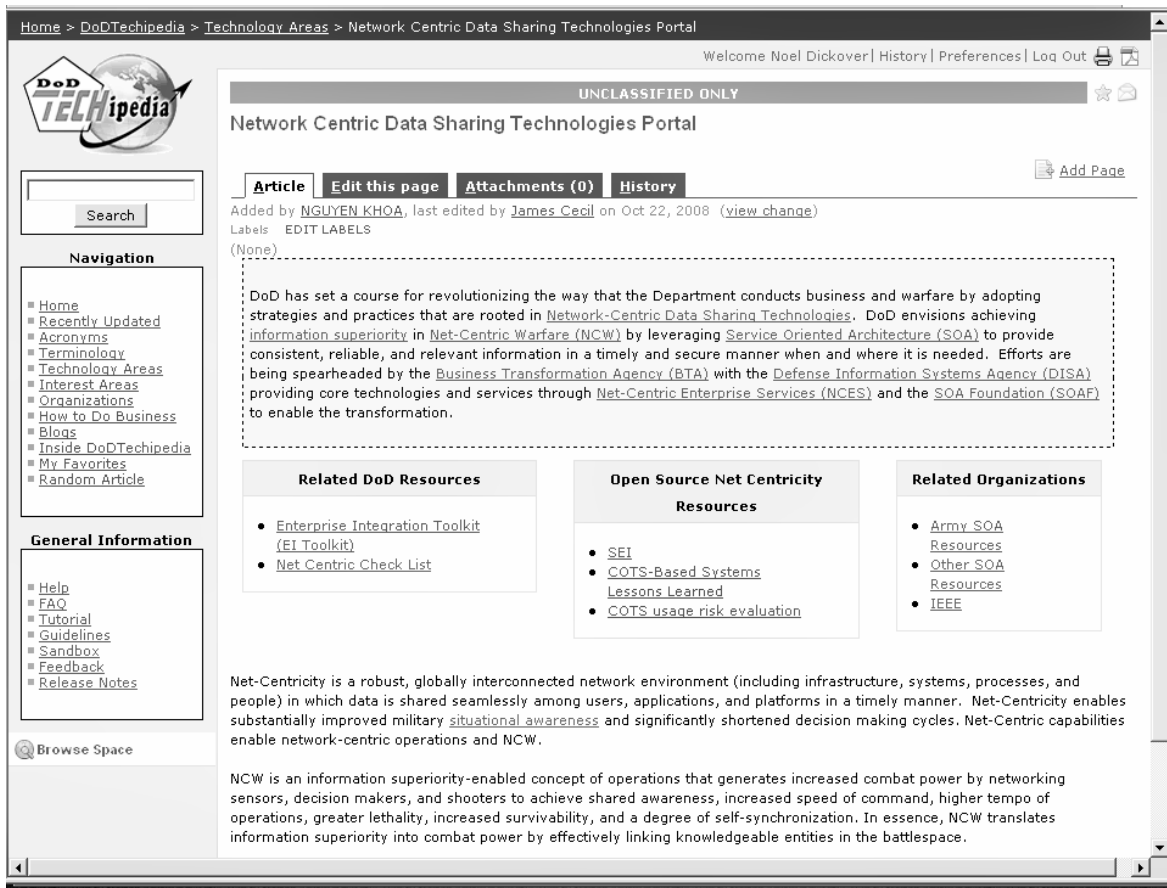
Source: DoDTechpedia by DTIC, "Network Centric Data Sharing Technologies Portal," DoD Technical Wiki Portal, accessed April 8, 2015, https://en.wikipedia.org/wiki/ File:Screenshot_DoDTechipedia2009.png.

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